Michigan STATE CAPITOL

Capitol Infrastructure Upgrade Report

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House Chamber CIU Work Complete

The air handling units in the House attic sit atop steel I-beams that are secured in wall pockets. Together the walls and the beams bear the weight of the equipment, which is too heavy to sit directly on the slab floor.

Image Courtesy of the MSCC

After a busy summer, the House Chamber, the House Caucus rooms, the Speaker's Office, and the offices behind the House Chamber are again open, marking completion of the first interior phase of the Capitol Infrastructure Upgrade (CIU) project.

Piping for one of the three new air handling units located in the House attic.

Image Courtesy of the MSCC

This phase began in June as soon as the Senate and House adjourned for the summer. The House, Senate, and Capitol Facilities teams quickly started relocating legislative offices, moving and protecting furniture, and covering portraits. Next, the general trades contractor built temporary walls enclosing the construction site and installed protection on the carpet and around the rostrum and doorframes.

Within days, mechanical, electrical, fire alarm, and building controls contractors began removing old equipment and preparing new fan coil units, thermostats, fire alarm devices, and wiring for installation. Thanks to a series of earlier mock-ups, they had a good understanding of the challenges they would face.

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This phase of the project also called for the installation of three new air handlers in the north attic. Given the conditions of the space, and the equipment's size, the team decided to disassemble and tote one air handler upstairs in pieces. The other two units were craned into the attic via a roof opening.

Some aspects of the project moved quicker than planned. When workers began installing the new very early smoke detection alarm system (commonly known as VESDA) in the ceiling of the House Chamber, they discovered the work was easier than anticipated. After finishing the House ahead of schedule, the crew moved into the Senate and completed the same task.

A new fan coil unit in the House Chamber. Each component was painted black, so they are not visible through their decorative grilles.

Image Courtesy of the MSCC

North Capitol Annex to Reopen in Late Fall

Late this fall Capitol Facilities will move back into the newly expanded underground north annex. This move will centralize all the Facilities staff (except the tour guides) into one area, allowing them to better support the building and serve its tenants.

In the meantime, subcontractors have been busy framing in walls and installing new electrical power and lighting, plumbing piping, and data lines for the annex. These new offices, the main entryway, and the corridor, will all be refreshed to create a more attractive, accessible, and welcoming space that transitions nicely to the Capitol's ground floor.

Old, failing waterproofing had to be removed before masons could repair the brick substructure of the north stairs.

Image Courtesy of the MSCC

Outside, stone masons are reattaching stone cladding onto the newly expanded concrete retaining wall that faces the Capitol's loading dock. The dock will reopen for deliveries and limited parking later this fall.

Up one level, masons are systematically rebuilding the brick, concrete, and stone of the north stairs. Over the years, water had seeped into open stone joints, infiltrating, and becoming trapped in, the brick substructure. In order to address this problem, masons removed the stone, only to discover that there was also, in some places, concrete beds up to four inches thick between the brick understructure and the stone treads.

In addition, the masons discovered a mix of concrete and rubblestone under the portico. This nineteenth century "fill" supports the stone at the porch level. While never meant to be seen, the rubblestone provides an interesting peek at the methods used to build the Capitol. Ultimately it will be hidden once again under waterproofing and limestone.

Before the stone goes back on, the masons will rebuild and tuckpoint portions of the brick, and pour new concrete beds for the stone. Next, they will install a protective layer of waterproofing to guard against future leaks. Then, using a crane, they'll carefully hoist, lay, and finally mortar each piece of limestone and sandstone back into place, working from the bottom up. All of this will need to be done before winter hits, as even modern mortars require temperatures in at least the mid-twenties to cure.

Central Utility Plant Concrete Finished

After nearly a year of work – including a massive excavation; the creation of an earth retention system; and forming and pouring drains, floors, columns, and walls – the structure of the new central utility plant (or CUP) is finished!

Workers place concrete on the roof of the new central utility plant.

Image Courtesy of the MSCC

The project team marked its completion on August 7, following a six-hour concrete placement for the CUP's slab roof. In total, the CUP's new roof contains 434 yards of concrete, or about forty-eight truckloads. The finished roof is estimated to weigh around 880 tons.

Now that this milestone is complete, contractors have installed metal stairs and are hanging sprinkler and mechanical piping, installing plumbing, and prepping and painting walls and ceilings inside. New equipment associated with the Capitol's geothermal system will be installed in the CUP and turned on next year.

New Technologies Provide Maintenance Help

"So where's that water coming from?" It's a question that the Capitol's staff has been forced to ask all too often over the decades when, suddenly, moisture appears in a

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ceiling, wall, or floor. Finding the source of the leak can be a potentially destructive task requiring the staff to make one or more cuts into decoratively painted plaster ceilings and walls to find the source of the problem. This meant that even after the water stopped and the root problem was fixed, workers still needed to complete time-consuming and expensive repairs to the plaster and art.

Enter the HoloLens, a new technology that will change this process. A HoloLens is a set of computerized goggles that allow the wearer to see the equipment, pipes, and electrical runs in the Capitol via our Building Information Model (BIM). Once the BIM is finished, and the new equipment installed, a Facilities person will only need to put on the HoloLens and peer into the walls to find the likely source of the leak. Then, instead of cutting a major hole into the affected surface, a workman can make a tiny hole and insert a borescope camera for an initial examination. All in all, the new HoloLens will save time and money.

Work in Governor's Office, Senate Appropriations Underway

The second major interior phase of the CIU project is now underway in the Capitol's east and south wings. Spaces affected in this next phase of the project include the Governor's Office, the Senate Appropriations Committee Room (also known as the Old Supreme Court Chamber), and the offices of Senate Appropriations Chair Hildenbrand (S-324), Senate Minority Leader Ananich (S-105), Senate Minority Floor Leader Hood (S-9), the Secretary of the Senate (S-5), and House Minority Floor Leader Greig (H-141). Other south and east wing offices will remain open.

New fan coil units, thermostats, fire alarms, and electrical equipment will be installed in these suites and some of the adjoining corridors throughout the fall of 2018. In general, the work will be similar to that which was recently completed in the north wing.

In addition, Capitol Facilities is working on two very special projects in the Governor's Office. For the first time since the Capitol's restoration, a new custom wool carpet, woven in a late nineteenth-century-inspired pattern, will be laid throughout the entire five-room suite. Meanwhile, a professional conservator will clean, conserve, and repair the Governor's original parlor furniture, purchased for this Capitol in 1878 from the Feige Brothers of Saginaw. This portion of the project is expected to end later this fall.

The massive antique sideboard in the Governor's Office had to be disassembled before it could be moved.

Image Courtesy of the MSCC

Live Stream

Watch the CIU project unfold on a live stream of the west side of Capitol Square at www.capitol.michigan.gov/restorationlivefeed.

Tour CIU Online

Tour the CIU construction site and learn about the latest progress being made at www.capitol.michigan.gov/restoration.

Want to learn more about Capitol tours, events, or history?

Visit www.capitol.michigan.gov.

Michigan State Capitol Commission

Members

Gary Randall
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Roger Kahn

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Staff

Rob Blackshaw
Director of Facility Operations & Project Manager
373-2099
rblackshaw@legislature.mi.gov

Valerie Marvin
Capitol Historian & Curator
373-2358
vmarvin@legislature.mi.gov

The Christman Company

Chad Clark
Project Manager
482-1488
chad.clark@christmanco.com

House and Senate Ground Floor Work Continues

The Capitol's ground floor offices have changed considerably since the building first opened in 1879. Originally intended for storage, the rooms were quickly pressed into use by the state departments headquartered on the first floor. When the departments left the building in the late 1960s and early 1970s, House and Senate members, committees, and staff eagerly moved in.

The question of how to treat these spaces arose during the Capitol's restoration. Truly restoring them wasn't practical, given their evolved use. Instead, the Senate took a moderate approach by introducing simple period-appropriate lighting, carpeting, and paint colors into their suites. The House deferred similar work.

Projects like the rehabilitation of the House Ground Floor offices provide a glimpse of the Capitol's bricks and iron beams. In total, the Capitol contains about nineteen million bricks.

Image Courtesy of the MSCC

Now, nearly thirty years later, as part of the CIU, the House is rehabilitating their ground floor offices located on the east side of the north wing. New period-appropriate carpeting, lighting, plaster, and paint schemes will be installed. Meanwhile, on the south end of the building, the Senate will recarpet their ground floor offices.

East Elevator Motor Replaced

The Capitol's east elevator will be down throughout the fall of 2018. The elevator's 1949 motor was removed, and a new one is being built. In addition, new cabling, mechanical, and electrical components will be installed; and the cab will be rebuilt with new interior finishes. The east elevator will resume service in late 2018.